Results of Model

CorrectedLabels.ipynb | BetterIOUCorr copy.ipynb | BetterIOUCorr copy 2.ipynb | BetterIOUCorr.ipynb

BetterIOUCorr.ipynb > Dataset and DataLoader Setup > Transform Operations Include > class CustomTransform:

+ Code + Markdown | Run All | Restart | Clear All Outputs | Variables | Outline ... | Python (myenv)

```
# Execute the training and validation loop for 50 epochs
num_epochs = 50
for epoch in range(num_epochs):
    [redacted], train_dice, train_iou = train_one_epoch(model, train_loader, optimizer, criterion, device)
    val_loss, val_dice, val_iou = validate(model, val_loader, criterion, device)

    print(f'Epoch {epoch+1}/{num_epochs}, Train Loss: {train_loss:.4f}, Train Dice: {train_dice:.4f}, Train IoU: {train_iou:.4f}, Validation Loss:
```

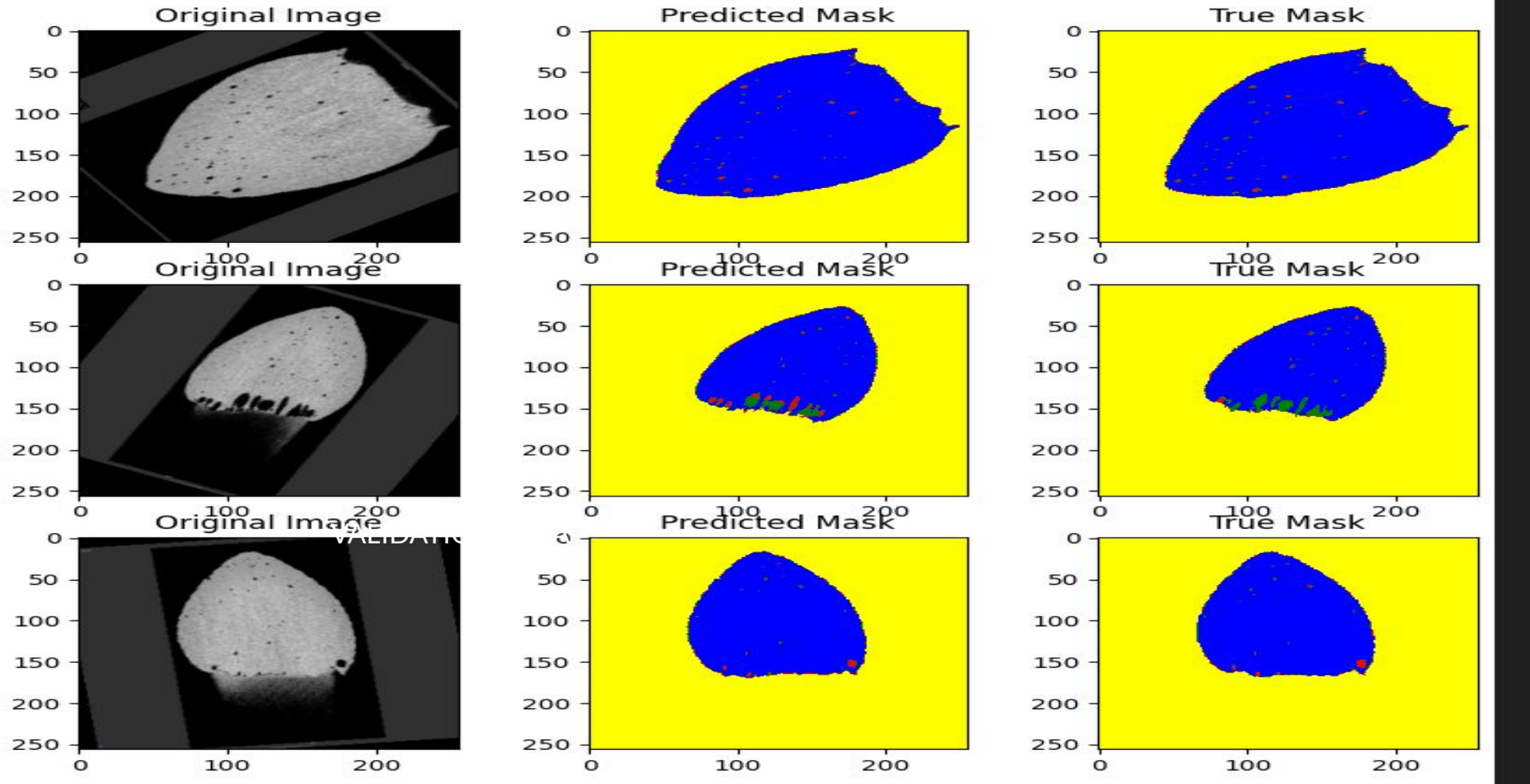
[11] Python

Performance on Train data :

```
Epoch 1/50, Train Loss: 0.5343, Train Dice: 0.2054, Train IoU: 0.1789, Validation Loss: 0.6117, Val Dice: 0.2156, Val IoU: 0.1837
Epoch 2/50, Train Loss: 0.4432, Train Dice: 0.2350, Train IoU: 0.2225, Validation Loss: 0.4572, Val Dice: 0.2518, Val IoU: 0.2422
Epoch 3/50, Train Loss: 0.4048, Train Dice: 0.2407, Train IoU: 0.2326, Validation Loss: 0.3918, Val Dice: 0.2535, Val IoU: 0.2453
Epoch 4/50, Train Loss: 0.3819, Train Dice: 0.2420, Train IoU: 0.2350, Validation Loss: 0.3960, Val Dice: 0.2526, Val IoU: 0.2434
Epoch 5/50, Train Loss: 0.3656, Train Dice: 0.2426, Train IoU: 0.2360, Validation Loss: 0.3591, Val Dice: 0.2557, Val IoU: 0.2491
Epoch 6/50, Train Loss: 0.3470, Train Dice: 0.2429, Train IoU: 0.2366, Validation Loss: 0.3491, Val Dice: 0.2564, Val IoU: 0.2501
Epoch 7/50, Train Loss: 0.3331, Train Dice: 0.2426, Train IoU: 0.2360, Validation Loss: 0.3166, Val Dice: 0.2560, Val IoU: 0.2494
Epoch 8/50, Train Loss: 0.3172, Train Dice: 0.2430, Train IoU: 0.2366, Validation Loss: 0.3124, Val Dice: 0.2564, Val IoU: 0.2503
Epoch 9/50, Train Loss: 0.3031, Train Dice: 0.2437, Train IoU: 0.2381, Validation Loss: 0.2971, Val Dice: 0.2583, Val IoU: 0.2537
Epoch 10/50, Train Loss: 0.2915, Train Dice: 0.2439, Train IoU: 0.2384, Validation Loss: 0.2862, Val Dice: 0.2575, Val IoU: 0.2523
Epoch 11/50, Train Loss: 0.2795, Train Dice: 0.2440, Train IoU: 0.2387, Validation Loss: 0.2784, Val Dice: 0.2574, Val IoU: 0.2522
Epoch 12/50, Train Loss: 0.2687, Train Dice: 0.2441, Train IoU: 0.2388, Validation Loss: 0.2569, Val Dice: 0.2577, Val IoU: 0.2529
Epoch 13/50, Train Loss: 0.2567, Train Dice: 0.2447, Train IoU: 0.2398, Validation Loss: 0.2545, Val Dice: 0.2586, Val IoU: 0.2543
Epoch 14/50, Train Loss: 0.2469, Train Dice: 0.2451, Train IoU: 0.2406, Validation Loss: 0.2473, Val Dice: 0.2590, Val IoU: 0.2550
Epoch 15/50, Train Loss: 0.2352, Train Dice: 0.2457, Train IoU: 0.2416, Validation Loss: 0.2432, Val Dice: 0.2578, Val IoU: 0.2528
Epoch 16/50, Train Loss: 0.2270, Train Dice: 0.2454, Train IoU: 0.2412, Validation Loss: 0.2188, Val Dice: 0.2592, Val IoU: 0.2554
Epoch 17/50, Train Loss: 0.2189, Train Dice: 0.2454, Train IoU: 0.2412, Validation Loss: 0.2129, Val Dice: 0.2587, Val IoU: 0.2547
Epoch 18/50, Train Loss: 0.2092, Train Dice: 0.2458, Train IoU: 0.2420, Validation Loss: 0.2070, Val Dice: 0.2598, Val IoU: 0.2565
Epoch 19/50, Train Loss: 0.2011, Train Dice: 0.2459, Train IoU: 0.2421, Validation Loss: 0.2052, Val Dice: 0.2588, Val IoU: 0.2547
Epoch 20/50, Train Loss: 0.1972, Train Dice: 0.2446, Train IoU: 0.2398, Validation Loss: 0.1886, Val Dice: 0.2591, Val IoU: 0.2554
Epoch 21/50, Train Loss: 0.1874, Train Dice: 0.2459, Train IoU: 0.2421, Validation Loss: 0.1910, Val Dice: 0.2591, Val IoU: 0.2553
Epoch 22/50, Train Loss: 0.1787, Train Dice: 0.2464, Train IoU: 0.2430, Validation Loss: 0.1773, Val Dice: 0.2591, Val IoU: 0.2553
Epoch 23/50, Train Loss: 0.1747, Train Dice: 0.2457, Train IoU: 0.2417, Validation Loss: 0.1718, Val Dice: 0.2593, Val IoU: 0.2557
Epoch 24/50, Train Loss: 0.1673, Train Dice: 0.2463, Train IoU: 0.2428, Validation Loss: 0.1638, Val Dice: 0.2594, Val IoU: 0.2558
Epoch 25/50, Train Loss: 0.1613, Train Dice: 0.2461, Train IoU: 0.2424, Validation Loss: 0.1645, Val Dice: 0.2579, Val IoU: 0.2530
...
Epoch 47/50, Train Loss: 0.0811, Train Dice: 0.2465, Train IoU: 0.2433, Validation Loss: 0.0767, Val Dice: 0.2601, Val IoU: 0.2572
Epoch 48/50, Train Loss: 0.0778, Train Dice: 0.2469, Train IoU: 0.2440, Validation Loss: 0.0730, Val Dice: 0.2604, Val IoU: 0.2578
Epoch 49/50, Train Loss: 0.0758, Train Dice: 0.2469, Train IoU: 0.2441, Validation Loss: 0.0721, Val Dice: 0.2606, Val IoU: 0.2580
Epoch 50/50, Train Loss: 0.0715, Train Dice: 0.2474, Train IoU: 0.2449, Validation Loss: 0.0727, Val Dice: 0.2605, Val IoU: 0.2579
```

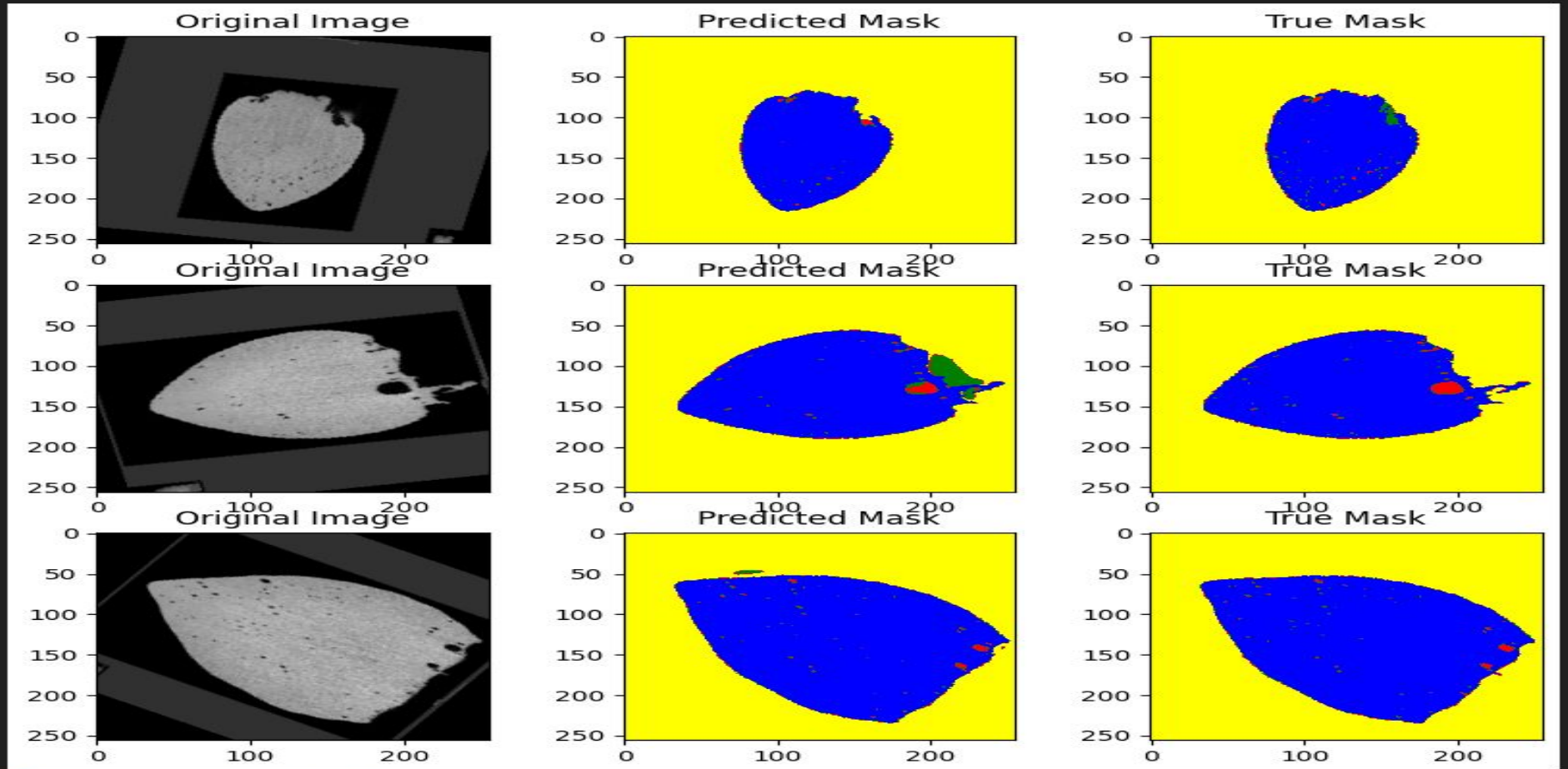
Output is truncated. View as a scrollable element or open in a text editor. Adjust cell output settings...

```
# Use the function with the validation loader
show_predictions(train_loader, model, device)
```



```
show_predictions(val_loader, model, device)
```

VALIDATION DATA



Performance on Test data :

```
# Evaluate the test dataset and print the results
test_loss, test_dice, test_iou = evaluate_test_set(model, test_loader, criterion, device)
print(f'Test Loss: {test_loss:.4f}, Test Dice: {test_dice:.4f}, Test IoU: {test_iou:.4f}')
```

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```
Test Loss: 0.0742, Test Dice: 0.2600, Test IoU: 0.2570
```

```
show_predictions(test_loader, model, device)
```

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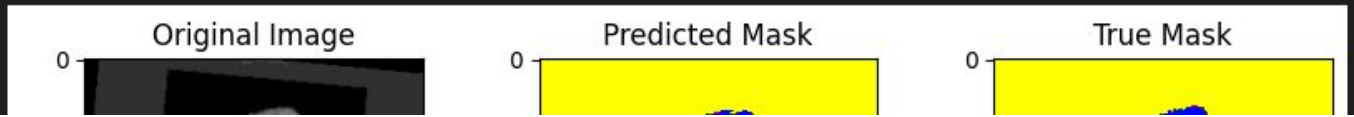

```
show_predictions(test_loader, model, device)
```